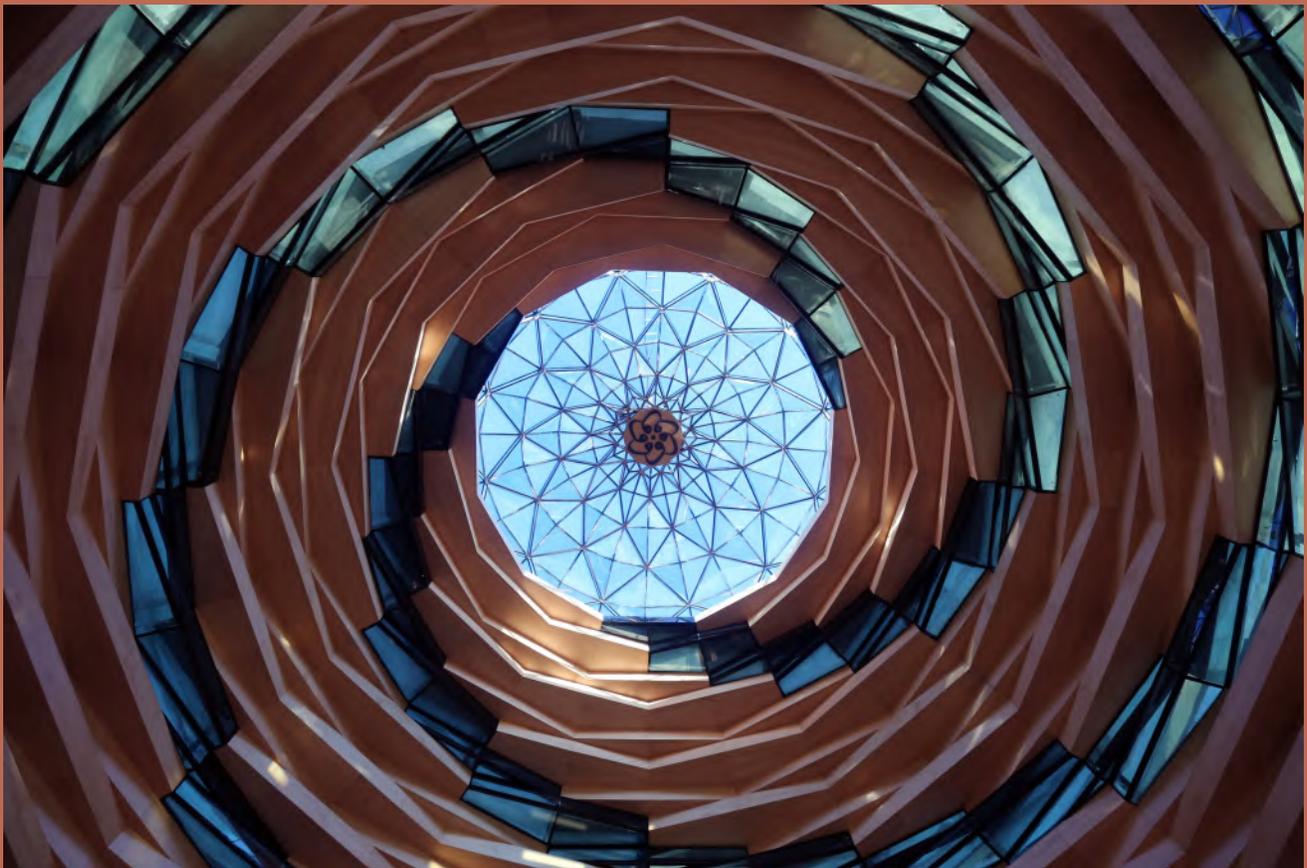


UPPER EAST TENNESSEE COUNCIL OF TEACHERS OF MATHEMATICS



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MEETINGS FOR 2020-2021:

Please check the UETCTM website over the summer for updates on the schedule for the 2020-2021 school year. Have a great summer!

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Virtual 2021
ANNUAL MEETING

April 21-May 1

Moving Forward—Kicking off NCTM's Next 100 Years

**600+ education sessions, interactive activities,
networking and more!**

**The meeting will take place over two weeks,
April 21-24 and April 28-May 1, with a single
registration fee for all of the sessions.**

**The NCTM 2021 Virtual Annual Meeting offers live
presentations with hundreds of on-demand and
community activities available.**

- **Inspiring education sessions from leading mathematics educators**
- **Expert keynote speakers and leaders in mathematics education**
- **Networking, games, giveaways and great ideas**
- **60 days of post-event access to all sessions**
- **New advances, technologies, and ideas through our virtual exposition**

You won't want to miss this virtual learning experience.

<https://www.nctm.org/virtualannual/>

Positive Self Talk: Girls in a Math World by Olivia DeBruin

It was my first year teaching. I was placed in 6th grade math. I had 75 students, with a majority being female. I was ready to get all my students engaged and learning the curriculum, but more so to show the girls that we are AMAZING at mathematics as well. As many educators know, the beginning of the year is spent on procedures, expectations, and review of previous skills learned. At this point, you quickly pick up on which students may need additional assistance in learning skills. Everything seemed okay until the first test. I had just finished grading them and realized, one of my top students hadn't done as well as I had expected.

At the end of class, I pulled her to the side to speak with her about her test. She began sobbing, "I just knew I wouldn't do great on the test! I'm terrible at math!" After taking some time to calm her down, I realized something. She had assumed that because of her grade, she wasn't good at math. Not knowing where this negative self talk had stemmed from, I continued to pour positive attitudes about girls in mathematics to increase her self esteem.

Fast forward a couple of years to when I began teaching second grade. It was partially through the year when I witnessed something that struck all of these realizations to me. I, yet again, had one of my top students not perform as well as expected on a math test. She told me over and over, "I'm just not good at math." Being so young and already having this feeling of not being good enough to succeed in math struck me as an odd occurrence.

This child, not more than 7, has already established in her mind that she is not good at math. This is WILD! She has yet to experience more than just a couple of years of school and is already telling herself, she isn't good enough. This called for a parent phone call.

After school that day, I contacted her mother to discuss what I had seen expressed from her daughter earlier that day. It wasn't far into our conversation that I heard something that resonated within me. "Well it's no wonder, I'm not good at math either." Wow! I just couldn't believe it. Even her own mother expressed that it was no surprise to that her daughter wasn't succeeding in math because she believed she wasn't "good enough" either. -insert light bulb going off-

The gears began to turn. I finally figured out why so many become so discouraged in mathematics. So many are hearing other women voice their insecurities about mathematics, that it must be true for them as well. Yes, I couldn't believe it. I had experienced a second grader with a negative self in regards to math. We have got to do something to change this, but how?

I began reading books about praise and rewards and some of the negative impacts that they can have. For something to be rewarding for a student, it really has to make meaning with them as well. Some great ways to praise a child who needs some positive affirmation is to praise using your eyes! I know it seems pretty simple, but instead of saying, "You did a great job on your test," use words such as "I noticed all of the extra time and practice you spent before the test. It shows that your hard work makes a difference". These are just some basic examples, but really praise the kids by what you see them doing. ■

Teaching "Beyond" in Small Group Mathematics by Tiffany Pelekakis

I have always been a proponent of using small groups and centers in classrooms. In college, the incorporation of centers and small group instruction was drilled so effectively in my teacher brain that I cannot even begin planning for a lesson now without considering if and how I could incorporate some element of small group instruction within it. When most teachers or education professionals hear the word "centers," they probably think, "elementary," or "K-2." If you had asked me before Math Elites, "How far beyond the grade you teach do you need to really look to be most effective?" I would have had a very different thought process than I have now. I would have considered for a minute, reflected on what skills and concepts I teach in third grade, and settled on, "definitely fifth, maybe sixth grade."

Math Elites changed my perspective on thinking "beyond" my grade level. I realized just how important what we teach at the elementary level is to high school and even college math. It is all based on fundamentals that are taught in the elementary grades. Fundamentals taught with the goal of filling in and building on gaps that may be present along the way. Fundamentals which are probably taught using centers and small group instruction.

I am an early childhood major, so it is true that at least for the time being, I am not certified to teach above third grade. With that being said, I understand the potential that centers and small group instruction can have "beyond" the elementary classroom. Yes, we all have the ever-looming constraints of time, resources, and class

size. Regardless, I challenge you to think "beyond" these aforementioned constraints and consider the possibilities of how centers could fit into your classroom, regardless of the age group(s), class size, or ability levels. A small group can be as large as splitting your class in half, something that I have done regularly. It could be as small as partner groups.

I use small group instruction because I know it can work. Small group instruction allows you to connect with your students on a more personal level. It allows you to have more in-depth conversations and truly learn about them as both a person and a learner. It gives insight to their strengths, weaknesses, motivations, and learning styles. Most importantly, it allows you fine tune your differentiated instruction. When able to focus your attention on fewer students, you can make split second, real time formative assessment decisions on a student-to-student basis to help clear up misconceptions before they become a mathematical habit. I'm not going to include quotes and scholarly articles to help prove my claim. However, if you're interested, I encourage you to commit some time to learn what the current research out there says about the effectiveness of small group instruction.

My time spent in Math Elites taught me the importance of teaching "beyond" in mathematics. It is my hope to convince you to think "beyond" elementary grades when considering the inclusion of small group instruction and centers. I challenge you to take away the rows of desks all facing one direction, divide up your learners, add some contextual math challenges, and multiply the opportunities to not only grow your students, but make some personal connections and build important relationships. After all, isn't that the most important part of teaching? ■



TENNESSEE MATHEMATICS TEACHERS ASSOCIATION

TMTA offers two scholarships each year:

- **The Dr. Henry Frandsen Scholarship for Teachers is awarded to a promising undergraduate committed to teaching mathematics at either the secondary or elementary level.**
- **The TMTA Desiree McCullough Advanced Degree Scholarship Award is awarded to a TMTA member currently teaching in Tennessee and pursuing either a Masters, Ed.S., or doctoral degree to improve his or her mathematics teaching.**

The deadline for application is May 1.

**Now accepting applications at:
<https://tmta.wildapricot.org/page-18062>**

The Power of a Strong Math Curriculum

by
Sarah Arnold

You know that feeling of creating the perfect lesson, teaching your heart out, and realizing that the concept was never grasped? I remember that feeling driving home from school with a pit in my stomach worrying that my students weren't learning from me. I was exhausted. There were many tears. I talked to my teaching colleagues who also felt they were in the same boat. We would share our concerns with each other, research together, and share resources that worked well with our students. Finally, after grade level meetings, math cohort gatherings, and investigating our curriculum, we came to the conclusion that our math curriculum wasn't strong enough. There were so many pieces of the curriculum that didn't flow. We were having to research stronger curriculums and supplement our lessons with them.

Our district heard our pleas for a stronger curriculum. Our district did their research and introduced us to a curriculum called Engage NY. We piloted Engage NY this past school year. I can barely put into words the transformation that came about in one short year. One of the best ways I know to describe it is to open up an invitation into our classroom to see for yourself. For now, I'll tell you about it here.

Engage NY is made up of four key components: Fluency Practice, Application Problem, Concept Development, and Student Debrief. The lessons and components strategically build on each other. Each piece of the curriculum has a purpose. When

implementing this curriculum with fidelity, magical things have taken place. Our students' fluency has grown stronger and stronger. The application problems have allowed them to apply concepts to problems, decode what the questions are asking, and align their answer to match the question and back it up with evidence. Concept development has helped our students to discover the "why" behind math concepts. This portion of the lesson is rich in discussion and creating reasoning. The student debrief is a time of reflection. Students get the chance to unpack and restate what they've learned, any "aha" moments they had, or misconceptions to clear up.

I realized I knew Engage NY was our answer when I drove home from school knowing that every single one of my students learned something valuable each day. They love the challenge that this curriculum brings. They love discussing math with their peers. They love learning, and that makes me one happy teacher. ■

Making Math Fun by Nicole McCurry

At the start of each school year, I always ask my students what their favorite subject is and why. As expected, there are always lots of different answers. We discuss their reasoning as to why they like or dislike a subject. One thing that always makes my “teacher heart” sad, is when a child says, “they hate math.” As a math teacher, I want my students to love math. I know that getting all students to love math may not be a realistic goal, but it’s a goal that I strive to meet.

When they tell me they dislike math, I always ask them why. The response I usually get is, “math is boring!” When I hear this, I immediately think back to my elementary, middle, and high school years. I was that kid! I always dreaded math. This is when I realized that I wanted to be a teacher, because I now know that math can be fun!

When I was in school, math was very repetitive. There was lots of practicing the same types of problems, with only one way to get the answer. I don’t remember doing small groups, using manipulatives, or participating in fun math activities. In knowing that I didn’t want to be one of those “boring classes,” I worked hard my first few years trying to find engaging ideas to help make math fun.

I am now in my eighth year of teaching 2nd grade. When math time rolls around each day, I always get a little bit excited. Years ago, I would have never thought I could be excited while solving math problems. I do my best to make our daily math lessons engaging. Asking

kids what they would like to see and do in math class always helps! The responses I always get are small groups (sometimes referred to as centers), using the computers and/or Ipads, and playing math games. Knowing what they want to see, helps drive our daily lessons.

Each math lesson always includes small group rotations. At the beginning of the year, we work on following rotation routines and within a few weeks, they can do it with or without me there. That’s always helpful, especially when you need a substitute. Since I started doing small group rotations, it has helped me to differentiate groups and work at the skill levels of each student in my class. In the rotation, they always get to use the computers and Ipads, where they work on math learning apps. I like using Reflex Math, IXL, and Splash Math. The kids love playing these educational games. Each Friday, I try to change things up by having a task or group activity that goes along with our standards we have been working on. The kids always love these activities.

In getting my students excited about math, their understanding and love of math always grows. I love seeing them get excited. When your students become engaged in what they are learning, then you as a teacher become excited to teach it. As I learn new ways each year to make math fun, I encourage others to do this also. Reach out to the people you work with to see what they are doing. As educators, we should always be looking to learn something new. If you feel as though it is too overwhelming implementing a lot of changes, start out small and stay consistent. Making math fun will always benefit your students, but you will be surprised at how much it benefits you as well! Have fun learning! ■



TENNESSEE MATHEMATICS TEACHERS ASSOCIATION

The Tennessee Mathematics Teachers Association will award a \$1,000 mini-grant to a Tennessee classroom teacher to be used for technology or manipulatives.

In order to be eligible:

- Your school or district must demonstrate financial need;**
- You must attend this year's TMTA Fall Conference to receive your award**
- You must report about your use of the minigrant (speaking at the next TMTA conference, speaking at a similar conference, or submitting a written report for publication in the TMTA Bulletin)**

Application deadline is September 1.

<https://tmta.wildapricot.org/Grant>

Increasing Student Engagement in the Virtual Mathematics Classroom

by Sunshine Light

Teaching in the age of COVID-19 is stressful! When this journey began at the end of the 2019-20 school year, teachers across the nation were told to do the best you can. Being driven to help students succeed, teachers began trying out technological resources they had sometimes never heard of before. Zoom no longer meant flying across the sky but became synonymous with virtual meetings seemingly overnight. Educational companies across the board offered teachers free access to their products to help learning continue in uncertain times. Although some students were unable to access online content, this became a lifesaver for most students and their parents.

In my experience, most of my students had access to the internet. However, I saw student engagement dwindle from the time virtual school started until the school year ended. I began asking myself what I could do to help students be more engaged. They were not used to learning this way. The world was falling apart. Everyone was scared. Life had changed. Parents were working from home and helping to serve as tutors during these times. I found myself setting up zoom tutoring session with many students and often worked until 9:00 p.m.

Now, as we are about to begin a new school year, I want to find new ways to help my students stay engaged even in a virtual learning situation. Through my experience in MathElites, an Eastman sponsored teacher development program, I have learned about

many online tools to help teach math face to face and virtually. My hope is some of these tools will improve student engagement.

In order to practice using some of the online tools, I have created a lesson on conceptually adding integers on the number line. This online lesson that has many of the components of an ordinary day in my classroom. To create this lesson, I used free versions of Screencast-O-Matic and Edpuzzle. Discussion is a big part of my face to face classroom and I wanted to bring that into my virtual classroom. Considering the virtual classroom is often asynchronous, this seemed daunting or even impossible. Then someone introduced me to Edpuzzle. Although this program does not allow for discussion as I traditionally think of them, I will be able to stop at intentional points and ask my students questions. I will review these questions and follow up with additional questions. This may not be as good as face to face instruction, I am excited to bring formative assessment into the virtual classroom.

I am hopeful student engagement will improve with the integration of different technological resources. I will keep trying to do what is best for children! Teachers, in general, are resourceful! We will use what we have and help each other to reach those kiddos.

The following link will take you to my online lesson:

<https://edpuzzle.com/media/5f11009bfd718f3f41ad3d27> ■

2021 NCTM Annual Meeting & Exposition in Atlanta

From Critical Conversations to Intentional Actions

September 22 - 25, 2021

Strands:

- **Broadening the Purposes of Learning and Teaching Mathematics**
- **Advocacy To Make an Impact in Mathematics Education**
- **Equitable Mathematics Through Agency, Identity, and Access**
- **Building and Fostering a Sense of Belonging in the Mathematics Community**
- **Effective Mathematics Teaching Practices**

**Speaker proposal submission is closed.
Speaker notifications will be sent out spring 2021.**

<https://www.nctm.org/annual/>

The Colorful World of Mathematics

by
Rindi Perry

Think about your world, what do you see? Is everything black and white or different shades of grey? Or is your world presented with magical colors of red, orange, yellow, green, blue, indigo, and violet? Now think about your math world—are things concrete or abstract? Now put the two worlds together. Did your brain just explode at thinking about all the colors and all the mathematical concepts at the same time? If yes, good that's what I intended for it to do. Now you've taken yourself back to your teenage years when middle school or high school algebra was your worst nightmare. Remember those days of dreading going to class because you didn't understand what the teacher was talking about. Or thinking how am I going to use this stuff in the real world? Well now, hopefully as an adult you have a better appreciation of the subject and you've seen just how applicable that high school math can be in the real world. Well, what if you could go back in time and see math with a different perspective? Would you take the chance and jump in the DeLorean with Doc Brown and Marty McFly and "go back to the future" per se? In this case, I'm calling it the future because this is where I would like to see the learning of mathematics go. What I'm referring to is incorporating color in the math classroom. Scratch the idea of just using plain white notebook paper and pencil or black Expo markers on a white board and liven up the math world with some Flair pens and colored Expo markers.

I began this career six years ago and at the time my philosophy was to only use a pencil in

class. If you make a mistake it's all right because you can erase it because you used a pencil, but now I think using pens is a must. Especially when it comes to note taking. When I began my teaching career I was certified to teach elementary grades and up to Algebra 1. I later took the math Praxis to get my secondary certification. Over the course of the last couple of years there was a mistake in the grading process and my certification in Tennessee almost expired so I had to retake the Praxis. During this time of studying a regaining certification is when I fell in love with using colored pens in the studying process and I just knew I wanted to start incorporating this idea into my math classes. As I began creating notes for my students, I found more often that I was using a variety of colors and each color had a set meaning or explanation to my thought process while teaching. So in class I started having students use colored pencils during the note taking process and had them match their colors to mine. This worked best when explaining the process of solving equations in my algebra class and reasoning through proofs in geometry. I made sure each step or each part of the equation was represented by a certain color and I would make a key for this so that students could reference back while they were at home. This was great and I was seeing a lot of improvement on quizzes and tests. However, when I stopped this process and went back to strictly using regular pencil or black and white note taking I saw grades begin to drop off slowly and steadily. I couldn't figure out what was wrong until the novel coronavirus hit.

In mid-March my school, like most of yours, was closed due to this unforeseen virus. Our worlds that were once so colorful suddenly turned dark. Fear and tragedy set in,

and it seemed like things would never go back to normal. Upon school closure my county presented the idea to use Zoom for class meetings and so I took this as an opportunity to reincorporate my colorful note taking habits back into the learning process. I tried one or two meetings just using black or blue ink and I realized this shows up awful on screen. How can my students even begin to see what I'm writing let alone try to comprehend so I decided to break out the PaperMate Ink Joy pens, my favorite, that had been stashed away just for grading purposes and use those to bring back some life to my math class. Once I started back with this process of using the colors, I could see my students were more engaged just like they had previously been. I even noticed when they were turning in their work that they were using colors as well. While being a part of the 2020 MathElites there was a class discussion among fellow high school teachers about the use of colored pens in class. It was brought to my attention that this is also a good way to check students' work and progress. Oftentimes students are too narrow minded or afraid to present their work to the teacher so they will erase what they have written down on paper and just expect that the teacher will come do the work for them. In our discussion a fellow teacher mentioned that she liked the idea of allowing students to use pens in the classroom so that she could see their work and review what they had done and make the notable changes if necessary. I agree with these remarks that she made, and I know that is something I am definitely going to do in my classroom in the foreseeable future. In the event that learning has to take place online instead of face-to-face, I'm going to ask that my students still present work to me in colored ink and this will be submitted through Google Classroom. I also incorporated a way in which students could

upload work using the camera feature on their smartphones to our Google Classroom account and I believe that was a great move before going to distance learning.

In closing, I hope you will consider allowing your students to brighten up the math world and incorporate more colorful ideas into your math classroom. If you are skeptical about using pens, start out with colored pencils or just allowing your student to use pens for grading work. Have peers review in different colors so that you and the students can see the evidence in learning going on from one brain to another. And now that you've taken this ride with me, Doc Brown, and Mr. McFly "Back to the Future" maybe you will see your students' future become much brighter. ■

2022 NCTM Annual Meeting & Exposition in Los Angeles

#NCTMLA22

September 28 - October 1, 2022

**Join the National Council of Teachers of
Mathematics, the public voice of mathematics
education, in Los Angeles.**

**NCTM's Annual Meeting & Exposition is the premier
professional development event for mathematics
educators, from PreK-12 teachers to university
professors.**

**This event will feature hundreds of education
sessions and provide a full range of program
content, including learning opportunities,
networking, and collaboration.**

Speaker proposal submissions open in July 2021.

<https://www.nctm.org/annual/>



**Upper East Tennessee Council of Teachers of Mathematics
Membership Application for 2020-2021**

Complete the application and return to the address below with a check for \$10.00 made payable to UETCTM.

Sevier Middle School
C/O Julie Tester-UETCTM
1200 Wateree Street
Kingsport, TN 37660

Name: _____

Home Address: _____

Home Phone: (_____) _____ - _____

District: _____

School: _____

School Address: _____

School Phone: (_____) _____ - _____

Email Address: _____

UETCTM may be asked to share your information with other math organizations (NCTM, TMTA, etc.) that promote mathematics education.

Please check the following statements if applicable:

Please check if you do NOT want your information to be shared.

I am a current member of NCTM.

I am interested in leading/presenting a session at UETCTM.

I am interested in holding a leadership position with UETCTM

Membership dues are for July 1, 2020-June 30, 2021.